What is claimed is:

1. A system comprising:

a first vessel comprising means for producing a permeate and means for mixing a concentrate with seawater; and

means for delivering the permeate from the first vessel to a land-based distribution system.

2. The system of claim 1, wherein the permeate comprises desalinated water and the concentrate comprises a brine.

3. The system of claim 1, wherein the permeate delivering means comprises a second vessel, the second vessel operable to receive the permeate from the first vessel and to deliver the permeate to the land-based distribution system.

4. The system of claim 3, wherein the second vessel is operable to receive the permeate from the first vessel while the first and second vessels are in motion with respect to shore.

5. The system of claim 3, wherein the second vessel comprises a tug-barge unit comprising a dead-weight tonnage in a range between about 10,000 and 500,000.

6. The system of claim 3, wherein the second vessel comprises a converted single-hull tanker comprising a dead-weight tonnage in a range between about 10,000 and 500,000.

7. The system of claim 1, wherein the permeate delivering means comprises a pipeline.

8. The system of claim 9, wherein the pipeline comprises a floating pipeline.

9. The system of claim 7, wherein the pipeline comprises a sea-floor stabilized pipeline.

10. The system of claim 7, wherein the pipeline comprises a sea-floor embedded pipeline.

11. The system of claim 1, wherein the land-based distribution system comprises:
a water storage tank;
a pumping station; and
a pipeline or a pipeline network.

12. The system of claim 11, further comprising a chemical feed station, the chemical feed station operable to adjust a plurality of water quality parameters.

13. The system of claim 11, further comprising a land-based transportation system.

14. The system of claim 13, wherein the land-based transportation system comprises a railroad or a railroad network.

15. The system of claim 13, wherein the land-based transportation system comprises a tank truck or a trucking network.

16. The system of claim 1, wherein a capacity of the permeate producing means is in a range between approximately 1 million gallons per day and 100 million gallons per day.

17. The system of claim 1, wherein the permeate producing means comprises a reverse osmosis system.

18. The system of claim 1, wherein a portion of the permeate producing means is disposed above a main deck of the first vessel.

19. The system of claim 3, wherein the permeate producing means is operable to produce permeate substantially continuously.

20. The system of claim 1, wherein the first vessel comprises a converted single-hull tanker comprising a dead-weight tonnage in a range between about 10,000 and 150,000.

21. The system of claim 1, wherein the first vessel is in continuous motion with respect to shore.

22. The system of claim 1, wherein the mixing means is operable to dilute the concentrate to a level substantially equal to a salinity level of water proximate to the first vessel.

23. The system of claim 1, wherein the mixing means is operable to regulate a temperature of the concentrate to a temperature substantially equal to that of water proximate to the first vessel.

24. The system of claim 1, wherein the first vessel further comprises a packaging system operable to package the permeate.

25. The system of claim 1, wherein the first vessel further comprises a store of disaster-relief provisions.

26. The system of claim 1, further comprising a support fleet operable to provide the first vessel with one or more of the following: fuel, supplies and provisions, repair and replacement materials and equipment, and personnel.

27. A system for providing disaster relief services from a maritime environment, the system comprising:

a first vessel operable to produce desalinated water, the first vessel comprising a first tonnage; and

means for delivering the desalinated water to shore.

28. The system of claim 27, wherein the first vessel comprises a system for packaging the desalinated water.

29. The system of claim 28, wherein the desalinated water delivering means comprises a second vessel, the second vessel is operable to receive the desalinated water from the first vessel and to deliver the desalinated water to shore.

30. The system of claim 29, wherein the second vessel is operable to receive the desalinated water from the first vessel while the first and second vessels are in motion with respect to shore.

31. The system of claim 29, wherein the second vessel comprises a second dead-weight tonnage, the second dead-weight tonnage comprising a range between about 10,000 and 500,000.

32. The system of claim 27, wherein the first vessel comprises a converted single-hull tanker and the first dead-weight tonnage comprises a range between about 10,000 and 150,000.

33. The system of claim 27, wherein the desalinated water delivering means comprises an airborne delivery system.

34. The system of claim 33, wherein the airborne delivery system comprises a helicopter.

35. The system of claim 33, wherein the airborne delivery system comprises a seaplane.

36. The system of claim 27, wherein the first vessel comprises a store of disaster-relief provisions.

37. The system of claim 27, wherein the first vessel is operable to produce desalinated water at a rate in a range between approximately 1 million gallons per day and approximately 100 million gallons per day.

38. The system of claim 27, wherein the first vessel comprises a reverse osmosis system.

39. The system of claim 27, wherein the first vessel is operable to produce the desalinated water substantially continuously.

40. The system of claim 27, wherein the first vessel substantially is in continuous motion with respect to shore.

41. The system of claim 27, further comprising a support fleet operable to provide the first vessel with one or more of the following: fuel, supplies and provisions, repair and replacement materials and equipment, and personnel.

42. A system for mitigating environmental impacts of a desalination system of a vessel on a maritime environment, the desalination system producing a permeate and a concentrate, the system comprising:

a mixing means for controlling the level of total dissolved solids of the concentrate discharged from the vessel into the surrounding body of water; and

means for regulating a temperature of the concentrate substantially equal to a temperature of the water surrounding the vessel.

43. The system of claim 42, further comprising means for dispersing the concentrate.

44. The system of claim 42, further comprising means for reducing a level of shipboard noise.

45. The system of claim 42, wherein the mixing means comprises a chamber disposed in a volume of the ship, the chamber comprising a plurality of baffles, a water intake, a concentrate inlet, and a concentrate outlet, and a mixing barrier comprising a plurality of apertures.

46. The system of claim 43, wherein the concentrate dispersing means comprises a grate.

47. The system of claim 46, wherein a pattern of the grate comprises divergently-oriented apertures.

48. The system of claim 46, wherein the grate comprises:
a plurality of apertures; and
a plurality of protrusions disposed in the plurality of apertures.

49. The system of claim 43, wherein the concentrate dispersing means comprises:
a discharge member extending from the ship; and
a plurality of orifices disposed in the discharge member.

50. The system of claim 49, wherein the discharge member comprises a plurality of discharge tubes, each one of the plurality of discharge tubes extending to a different depth.

51. The system of claim 49, wherein the discharge member comprises a floating hose.

52. The system of claim 51, wherein the discharge member comprises a catenary.

53. The system of claim 44, wherein the noise reducing means comprises a plurality of piping encasements.

54. The system of claim 44, wherein the noise reducing means comprises a plurality of vibration dampeners.

55. A method comprising:

providing a first vessel operable to produce a permeate and operable to mix a concentrate; and

delivering the permeate from the first vessel to a land-based distribution system.

56. The method of claim 55, wherein the permeate comprises desalinated water and the concentrate comprises a brine.

57. The method of claim 55, wherein the step of delivering the permeate from the first vessel to the land-based distribution system comprises:

transferring the permeate from the first vessel to a second vessel;

transporting the permeate disposed in the second vessel proximate to the land-based distribution system; and

transferring the permeate from the second vessel to the land-based distribution system.

58. The method of claim 57, wherein the first and second vessels are in motion with respect to shore.

59. The method of claim 57, wherein the second vessel comprises a tug-barge unit comprising a dead-weight tonnage in a range between about 10,000 and 500,000.

60. The method of claim 57, wherein the second vessel comprises a converted single-hull tanker comprising a dead-weight tonnage in a range between about 10,000 and 500,000.

61. The method of claim 55, wherein the step of delivering the permeate from the first vessel to the land-based distribution system comprises:

transferring the permeate from the first vessel to a pipeline; and

transporting the permeate disposed in the pipeline proximate to the land-based distribution system.

62. The method of claim 61, wherein the pipeline comprises a floating pipeline.

63. The method of claim 61, wherein the pipeline comprises a sea-floor stabilized pipeline.

64. The method of claim 61, wherein the pipeline comprises a sea-floor embedded pipeline.

65. The method of claim 55, further comprising:

providing a storage tank;

communicating a pipeline or a pipeline network with the storage tank; and

communicating a pumping station with the pipeline or the pipeline network.

66. The method of claim 65, further comprising communicating a chemical feed station with the storage tank, the chemical feed station operable to adjust a plurality of water quality parameters.

67. The method of claim 65, further comprising providing a land-based transportation system.

68. The method of claim 67, wherein the land-based transportation system comprises a railroad or a railroad network.

69. The method of claim 67, wherein the land-based transportation system comprises a tank truck or a trucking network.

70. The method of claim 55, wherein a rate of production of permeate of the first vessel is in a range between approximately 1 million gallons per day and approximately 100 million gallons per day.

71. The method of claim 55, further comprising providing a reverse osmosis system.

72. The method of claim 55, wherein the first vessel comprises a converted single-hull tanker comprising a dead-weight tonnage in a range between about 10,000 and 500,000.

73. The method of claim 55, wherein the first vessel is in continuous motion with respect to shore.

74. The method of claim 56, further comprising diluting the concentrate to a level substantially equal to a salinity level of water proximate to the first vessel.

75. The method of claim 55, further comprising packaging the permeate.

76. A method of providing relief to a disaster-stricken area, the method comprising:

providing a first vessel operable to produce desalinated water, the first vessel comprising a first tonnage; and

delivering the desalinated water to shore.

77. The method of claim 76, further comprising packaging the desalinated water.

78. The method of claim 76, further comprising providing a second vessel operable to receive the desalinated water from the first vessel and to deliver the desalinated water to shore, the second vessel comprising a second tonnage, the second tonnage less than the first tonnage.

79. The method of claim 76, wherein the second vessel is operable to receive the desalinated water from the first vessel while the first and second vessels are in motion with respect to shore.

80. The method of claim 76, wherein the first vessel comprises a converted single-hull tanker and the first dead-weight tonnage comprises a range between about 10,000 and 500,000 and wherein the second dead-weight tonnage comprises a range between about 10,000 and 500,000.

81. The method of claim 76, further comprising providing an airborne vehicle.

82. The method of claim 81, wherein the airborne vehicle comprises a helicopter.

83. The method of claim 81, wherein the airborne vehicle comprises a seaplane.

84. The method of claim 76, further comprising providing a store of disaster-relief provisions.

85. The method of claim 76, wherein the first vessel comprises a reverse osmosis system operable to produce desalinated water at a rate in a range between approximately 1 million gallons per day and approximately 100 million gallons per day.

86. The method of claim 76, wherein the first vessel substantially is in continuous motion with respect to shore.

87. The method of claim 76, further comprising providing a plurality of support vessels operable to provide the first vessel with one or more of the following: fuel, supplies and provisions, repair and replacement materials and equipment, and personnel.

88. A method of mitigating environmental impacts of desalinating water, the process of desalinating water producing a permeate and a concentrate, the method comprising:

diluting the concentrate such that the total dissolved solids of the diluted concentrate is between the level of the total dissolved solids of the concentrate and of the total dissolved solids of the surrounding body of water; and

regulating a temperature of the concentrate substantially equal to a temperature of the water proximate the area of the concentrate discharge.

89. The method of claim 88, further comprising dispersing the concentrate.

90. The method of claim 89, further comprising providing a grate.

91. The method of claim 89, further comprising disposing a plurality of divergently-oriented apertures in the grate.

92. The method of claim 89, further comprising:

providing the grate with a plurality of apertures; and

disposing a plurality of protrusions in the plurality of apertures.

93. The method of claim 88, further comprising discharging the concentrate from a plurality of locations.

94. The method of claim 88, further comprising providing a concentrate discharge member.

95. The method of claim 94, further comprising providing a plurality of orifices disposed in the concentrate discharge member.

96. The method of claim 94, wherein the effluent discharge member comprises a plurality of tubes, each one of the plurality of tubes comprising a different length.

97. The method of claim 88, further comprising reducing a level of operating noise.

98. The method of claim 97, further comprising providing a plurality of piping encasements.

99. The method of claim 97, further comprising providing a plurality of dampening members.

100. The method of claim 88, further comprising providing a mixing tank, the mixing tank comprising a plurality of baffles, a raw water intake, a brine intake, and a concentrate discharge port.

101. A vessel comprising a water purification system comprising:

a water intake system comprising a water intake and a water intake pump;

a reverse osmosis system comprising a high pressure pump and a reverse osmosis membrane;

a concentrate discharge system comprising a plurality of concentrate discharge ports;

a permeate transfer system comprising a transfer pump;

a power source; and

a control system,

wherein

the reverse osmosis system is in communication with the water intake system,

the concentrate discharge system and the permeate transfer system are in communication with the reverse osmosis system,

the power source is in communication with the water intake system, the reverse osmosis system, and the permeate transfer system, and

the control system is in communication with the water intake system, the reverse osmosis system, the concentrate discharge system, the permeate transfer system, and the power source.

102. The vessel of claim 101, further comprising a propulsion device in communication with the power source.

103. The vessel of claim 102, further comprising a separate power source for each of the water intake system, reverse osmosis system permeate, transfer system, and propulsion device.

104. The vessel of claim 102, wherein one power source provides power to two or more of the water intake system, reverse osmosis system, transfer system, and propulsion device.

105. The vessel of claim 101, wherein the plurality of concentrate discharge ports act as an auxiliary propulsion device for the vessel or act as the sole propulsion device for the vessel.

106. The vessel of claim 105, wherein a portion of the concentrate is passed to propulsion thrusters to provide idling or emergency propulsion.

107. The vessel of claim 101, wherein the power source comprises electricity producing windmills.

108. The vessel of claim 101, wherein the power source comprises water propellers that harness the flow of water around the moored vessel to generate electrical power.

109. The vessel of claim 101, wherein the water intake system comprises one or more apertures in the hull of the vessel below the water line of the ship.

110. The vessel of claim 101, further comprising a plurality of reverse osmosis systems.

111. The vessel of claim 110, wherein the plurality of reverse osmosis systems are installed on the vessel's deck.

112. The vessel of claim 110, wherein the plurality of reverse osmosis systems are installed on multiple levels.

113. The vessel of claim 110, wherein the plurality of reverse osmosis systems are each within in a separate container.

114. The vessel of claim 110, wherein the plurality of reverse osmosis systems are installed in a parallel configuration.

115. The vessel of claim 101, wherein the permeate transfer system is capable of transferring the permeate produced to a permeate delivery means comprising a transfer vessel means while the vessel and the transfer vessel means are under way.

116. The vessel of claim 101, wherein the permeate transfer system is capable of transferring the permeate produced to a permeate delivery means comprising a pipeline in communication with the permeate transfer system.

117. The vessel of claim 101, wherein the control system comprises a computer program to make autonomous operational decisions to operate the vessel.

118. The vessel of claim 101, wherein the plurality of concentrate discharge ports are located above the water line of the vessel.

119. The vessel of claim 101, wherein the plurality of concentrate discharge ports are located below the water line of the vessel.

120. The vessel of claim 101, wherein the plurality of concentrate discharge ports are located in such a way that a portion of the concentrate discharged through the plurality of

concentrate discharge ports is capable of being mixed with the water surrounding the vessel by a propulsion device for the vessel.

121. The vessel of claim 101, further comprising a plurality of reverse osmosis systems wherein a separate concentrate discharge system is connected to each reverse osmosis system.

122. The vessel of claim 101, further comprising a plurality of reverse osmosis systems wherein the concentrate discharged from each reverse osmosis system is collected into one or more longitudinally oriented manifold pipes, structural box girders, or tunnels and wherein the plurality of concentrate discharge ports allows the concentrate to be discharged over a substantial portion of the vessel's length.

123. The vessel of claim 101, wherein each concentrate discharge port of the concentrate discharge system incorporates a grate designed to assist mixing of the concentrate with the surrounding body of water.

124. The vessel of claim 123, wherein each concentrate discharge port of the concentrate system comprises a grating having divergently oriented apertures.

125. The vessel of claim 123, wherein each concentrate discharge port of the concentrate system comprises a grating having protrusions into the grating's apertures.

126. The vessel of claim 101, wherein the concentrate discharge ports are configured such that the concentrate discharge ports are operable to change their circumference and operable to change the direction of the flow of the concentrate.

127. The vessel of claim 101, wherein the concentrate system comprises a member extending from the hull of the vessel and having multiple concentrate discharge ports on the member.

128. The vessel of claim 101, wherein the concentrate system comprises a member extending over the side of the vessel and having multiple concentrate discharge ports on the member.

129. The vessel of claim 127 or 128, wherein the member is supported by pontoons, by a catenary comprising support pontoons, or by its own inherent buoyancy.

130. The vessel of claim 101, wherein each concentrate discharge port is mounted on a dispersion device that enables the concentrate discharge ports to move in a full hemi-sphere range.

131. The vessel of claim 101, wherein the concentrate discharge system further comprises a pump to increase the water pressure of the concentrate prior to being discharged through the concentrate dispersion system.

132. The vessel of claim 101, further comprising a heat recovery system in communication with the exhaust of a power source, the water intake system, the control system, and the reverse osmosis system.

133. The vessel of claim 101, further comprising a heat exchange system in communication with the reverse osmosis system and the concentrate discharge system.

134. The vessel of claim 101, further comprising a pressure recovery system operable to convert the energy associated with the pressure of the concentrate wherein the pressure recovery system is in communication with the high pressure pump and reverse osmosis membrane of the reverse osmosis system.

135. The vessel of claim 134, wherein the pressure recovery system is operable to produce electricity.

136. The vessel of claim 101, further comprising a plurality of reverse osmosis systems and a pressure recovery system operable to convert the energy associated with the pressure of the concentrate wherein the pressure recovery system is in communication with the plurality of reverse osmosis membranes.

137. The vessel of claim 101, further comprising a noise or vibration reduction device in communication with the high pressure pump of the reverse osmosis system.

138. The vessel of claim 101, further comprising a noise or vibration reduction device in communication with the intake pump of the water intake system.

139. The vessel of claim 101, further comprising a noise or vibration reduction device in communication with the pump of the permeate transfer system.

140. The vessel of claim 101, further comprising a noise or vibration reduction device in communication with the power source.

141. The vessel of claim 101, further comprising a mixing system in communication with the reverse osmosis system and the concentrate discharge system wherein the mixing system is operable to mix the concentrate with water taken directly from the surrounding body of water.

142. The vessel of claim 141, wherein the mixing system comprises a mixing tank comprising a mixing tank comprising a concentrate inlet, a concentrate outlet, a mixing intake system comprising a water intake and a pump, a series of baffles, and a mixing barrier comprising a plurality of apertures wherein the mixing barrier extends from one side of the mixing tank to an opposing side of the mixing tank and wherein adjacent baffles are coupled to opposing sides of the mixing tank and are arranged in a staggered relationship such that a portion of each baffle overlaps with an adjacent baffle.

143. The vessel of claim 142, wherein the water intake of the mixing system is same water intake as the water intake of the water intake system.

144. The vessel of claim 142, wherein the baffles are oriented horizontally, transversely, or longitudinally.

145. The vessel of claim 101, further comprising a permeate treatment system in communication with the low pressure side of the reverse osmosis membrane and the permeate transfer system.

146. The vessel of claim 145, wherein the permeate treatment system comprised a corrosion control system.

147. The vessel of claim 145, wherein the permeate treatment system comprises a permeate conditioning system.

148. The vessel of claim 145, wherein the permeate treatment system comprises a permeate disinfection system.

149. The vessel of claim 101, further comprising a storage tank, a pretreatment system, an energy recovery system, and a permeate storage tank, wherein the storage tank is in communication with the water intake pump and the pretreatment system, and the pretreatment system is in communication with the storage tank and the high pressure pump, and the energy recovery device is in communication with the high pressure side of the reverse osmosis membrane, the high pressure pump, and the concentrate discharge system.

150. The vessel of claim 149, wherein the pretreatment system comprises at least one of a debris prefilter system, a reservoir, and a surge tank.

151. The vessel of claim 101, further comprising a permeate storage tank in communication with the reverse osmosis system and the permeate transfer system.

152. The vessel of claim 101, further comprising a packaging system in communication with the permeate storage tank wherein the packaging system comprises extraction pumps with supply lines for drawing permeate out of the permeate storage tank.

153. The vessel of claim 101, comprising a plurality of reverse osmosis systems wherein the vessel is capable of producing 5,000 to 450,000 cubic meters of permeate per day.

154. The vessel of claim 101, wherein the vessel has a dead weight tonnage of between about 10,000 and 500,000.

155. The vessel of claim 101, wherein the vessel has a dead weight tonnage of between about 30,000 and 50,000.

156. The vessel of claim 101, wherein the vessel has a dead weight tonnage of between about 65,000 and 80,000.

157. The vessel of claim 101, wherein the vessel has a dead weight tonnage of about 120,000.

158. The vessel of claim 101, wherein the vessel has a dead weight tonnage of between about 250,000.

159. The vessel of claim 101, wherein the vessel has a dead weight tonnage of about 500,000.

160. A method for producing a permeate on a floating structure comprising:
producing permeate wherein a concentrate is produced;
discharging the concentrate into the surrounding water through a concentrate discharge system comprising a plurality of concentrate discharge ports.

161. The method of claim 160, wherein the step of producing a permeate comprises pumping water through a reverse osmosis system comprising a high pressure pump and a filter element comprising a reverse osmosis membrane wherein the concentrate is produced on the high pressure side of the reverse osmosis membrane.

162. The method of claim 160, further comprising the step of having the floating structure travel through the water while discharging the concentrate.

163. The method of claim 160, wherein the step of producing a permeate comprises pumping water through a plurality of reverse osmosis systems comprising a high pressure pump and a filter element comprising a reverse osmosis membrane wherein a concentrate is produced on the high pressure side of the reverse osmosis membrane and wherein the plurality of reverse osmosis systems are in a parallel configuration.

164. The method of claim 160, further comprising the step of having the floating structure travel through the water in a pattern selected from the group consisting of a substantially circular pattern, an oscillating pattern, and a straight line.

165. The method of claim 160, further comprising the steps of fixing the floating structure relative to a position on land in a current and having the concentrate dispersed by water currents.

166. The method of claim 160, wherein the plurality of concentrate discharge ports are located on the floating structure such that a substantial portion of the discharged concentrate is mixed with the surrounding water by a propulsion device of the floating structure.

167. The method of claim 160, In other embodiments, the plurality of ports may be located above or below the water line of the floating structure.

168. The method of claim 160, further comprising the step of mixing the concentrate with water taken directly from the surrounding body of water before discharging the concentrate.

169. The method of claim 168, wherein the step of mixing the concentrate comprises passing the concentrate and the water taken directly from the surrounding body of water together through a mixing barrier and a series of baffles before being discharged through the plurality of concentrate discharge ports.

170. The method of claim 160, wherein the plurality of concentrate discharge ports are physically located above the water line of the floating structure.

171. The method of claim 160, wherein the plurality of concentrate discharge ports are physically located below the water line of the floating structure.

172. The method of claim 161, wherein the plurality of concentrate discharge ports are physically located in such a way that a portion of the concentrate discharged mixed with the water surrounding the floating structure by a propulsion device.

173. The method of claim 160, wherein the step of producing a permeate comprises pumping water through a plurality of reverse osmosis systems comprising a high pressure pump and a filter element comprising a reverse osmosis membrane wherein a concentrate is produced on the high pressure side of the reverse osmosis membrane and wherein the plurality of reverse osmosis systems are in a parallel configuration and wherein a separate concentrate discharge system is in communication with each reverse osmosis system.

174. The method of claim 163, further comprising the step of collecting the concentrate produced by each reverse osmosis system into one or more longitudinally oriented manifold pipes, structural box girders, or tunnels and wherein at intervals along the floating structure, the plurality of discharge ports allows the concentrate to be discharged over a substantial portion of the floating structure's length.

175. The method of claim 160, wherein each concentrate discharge port comprises a grate having divergently oriented apertures.

176. The method of claim 160, wherein each concentrate discharge port comprises a grate having protrusions into the grating's apertures.

177. The method of claim 160, wherein the concentrate discharge ports are configured such that the concentrate discharge ports may change their circumference and may also change the direction of the flow the concentrate being discharged.

178. The method of claim 160, wherein the floating structure is moored and the concentrate discharge is discharged through a member extending down from the hull of the floating structure with multiple discharge points on member.

179. The method of claim 160, wherein the floating structure is moored and the concentrate discharge is discharged through a member operable to float on the water's surface through the use of support pontoons or a catenary having support pontoons.

180. The method of claim 160, wherein each concentrate discharge port is mounted on a dispersion device that enables the discharge port to move in a full hemi-sphere range where the dispersion device is selected from the group consisting of a universal joint, a swivel, a gimble, a ball and a socket.

181. The method of claim 160, wherein the concentrate is pressurized before being discharged through the plurality of concentrate discharge ports.

182. A computer readable medium having instructions, the instructions including instructions that cause a processor to communicate a signal to a control system to perform the steps of:

producing a permeate; and

discharging the concentrate through a concentrate discharge system into water proximate to the concentrate discharge system, wherein total dissolved solids level of the concentrate discharged is substantially equal to the total dissolved solids level of the water proximate to the floating structure.

183. The computer readable medium of claim 182, further comprising stored instructions, the stored instructions including instructions, that, when executed by the processor, cause the control system to perform the step of pumping water through a reverse osmosis system.

184. The computer readable medium of claim 182, further comprising stored instructions, the stored instructions including instructions, that, when executed by the processor, cause the control system to perform the step of pumping water through a plurality of reverse osmosis systems.

185. The computer readable medium of claim 182, further comprising stored instructions, the stored instructions including instructions, that, when executed by the processor, cause the control system to perform the step of mixing the concentrate with water from a surrounding body of water before discharging the concentrate.

186. The computer readable medium of claim 185, further comprising stored instructions, the stored instructions including instructions, that, when executed by the processor, cause the control system to perform the step of passing the concentrate and the water from the surrounding body of water together through a mixing barrier and a series of baffles before being discharged through the plurality of concentrate discharge ports.

187. The computer readable medium of claim 182, further comprising stored instructions, the stored instructions including instructions, that, when executed by the processor, cause the control system to perform the step of pumping water through a plurality of reverse osmosis systems.

188. The computer readable medium of claim 184, further comprising stored instructions, the stored instructions including instructions, that, when executed by the processor, cause the control system to perform the step of collecting the concentrate produced by each reverse osmosis system into one or more longitudinally oriented manifold pipes, structural box girders, or tunnels.

189. A system comprising:

a vessel comprising means for producing energy; and

land-based means for transferring the energy from the vessel to a land-based distribution system.

190. The system of claim 189, wherein the vessel comprises a dead-weight tonnage in a range between about 10,000 and 500,000.

191. The system of claim 189, wherein the energy producing means comprises:

a supply transformer;

a motor;

a frequency converter operable to control a speed and a torque of the motor; and

a motor control.

192. The system of claim 189, wherein the energy producing means comprises a fuel cell.

193. The system of claim 189, wherein the energy transferring means comprises means for synchronizing the energy from the vessel to the land-based distribution system.

194. The system of claim 193, wherein the synchronizing means comprises:

a generator step-up transformer operable to step-up a voltage from the vessel to a voltage substantially equal to the land-based distribution system; and

a second converter operable to synchronize the energy from the vessel with the land-based distribution system.

195. The system of claim 189, wherein a capacity of the energy producing means comprises a range between about 10 megawatts and 100 megawatts.

196. The system of claim 189, wherein the vessel further comprises means for cleaning exhaust.

197. The system of claim 196, wherein the exhaust cleaning means comprises a scrubber.

198. The system of claim 196, wherein the exhaust cleaning means comprises a particulate filter.

199. A system comprising:

a vessel operable to produce desalinated water and electricity;

means for delivering the desalinated water from the vessel to a land-based water distribution system; and

means for transferring the electricity from the vessel to a land-based electrical distribution system.

200. The system of claim 199, wherein the vessel comprises a dead-weight tonnage in a range between about 10,000 and 500,000.

201. The system of claim 199, wherein the vessel is operable to produce desalinated water in a range between about 1 million gallons per day and 100 million gallons per day.

202. The system of claim 199, wherein the vessel further comprises:

a supply transformer;

a motor;

a frequency converter operable to control a speed and a torque of the motor; and

a motor control.

203. The system of claim 199, wherein the energy transferring means comprises:

a generator step-up transformer operable to step-up a voltage from the vessel to a voltage substantially equal to the land-based electrical distribution system; and

a second converter operable to synchronize the electricity from the vessel with the electricity of the land-based electrical distribution system.

204. The system of claim 199, wherein a capacity of the vessel for producing electricity comprises a range between about 10 megawatts and 100 megawatts.

205. The system of claim 199, wherein the vessel further comprises means for cleaning exhaust.

206. The system of claim 205, wherein the exhaust cleaning means comprises a scrubber.

207. The system of claim 205, wherein the exhaust cleaning means comprises a particulate filter.

208. A vessel comprising:

a hull comprising a first surface and a second surface;

means for producing desalinated water;

means for mixing a concentrate with seawater; and

means for storing the desalinated water, the water storing means comprising a tank disposed within the hull, the tank comprising a first surface and a second surface, the second surface of the tank separated from the first surface of the hull.

209. The vessel of claim 208, wherein the first surface of the hull comprises an interior surface of the vessel and the second surface of the hull comprises an exterior surface of the vessel.

210. The vessel of claim 208, wherein the second surface of the tank is separated from the first surface of the hull by a distance, the distance being at least about two meters.

211. The vessel of claim 208, wherein the tank comprises at least one of the following: concrete, a plastic, a thermoplastic resin, a thermosetting resin, a polymerized ethylene resin, a polytetrafluoroethylene, a carbon steel, and a stainless steel.

212. The vessel of claim 211, wherein the stainless steel is selected from the group consisting of: grade 304 stainless steel and grade 316 stainless steel.

213. The vessel of claim 208, wherein the first surface of the tank is in communication with the desalinated water.

214. The vessel of claim 212, wherein a cladding is coupled to the first surface of the tank, the cladding comprising the stainless steel.

215. The vessel of claim 208, wherein a sacrificial anode is coupled to the second surface of the tank.

216. The vessel of claim 208, wherein the first and second surfaces of the tank each comprise a layer, the layer comprising a first layer, a second layer, and a third layer.

217. The vessel of claim 216, wherein the first layer of the first surface of the tank is selected from the group consisting of: a two-component epoxy, a zinc-rich primer, a vinyl coating, a fast-drying coal-tar enamel coating, and a shop-applied primer.

219. The vessel of claim 216, wherein the second layer of the first surface of the tank is selected from the group consisting of: a two-component epoxy, a vinyl resin coating, and a cold-applied coal tar coating.

220. The vessel of claim 216, wherein the third layer of the first surface of the tank is selected from the group consisting of: a two-component epoxy, a vinyl resin coating, a hot-applied coal tar enamel, and a cold-applied coal tar coating.

221. The vessel of claim 216, wherein the first layer of the second surface of the tank is selected from the group consisting of: a rust-inhibitive pigmented alkyd primer, a vinyl coating, a two-component epoxy, and a zinc-rich primer.

222. The vessel of claim 221, wherein the rust-inhibitive pigmented alkyd primer comprises a red iron oxide, a zinc oxide, an oil, and an alkyd primer.

223. The vessel of claim 216, wherein the second layer of the second surface is selected from the group consisting of: a ready-mixed aluminum coating, an alkyd enamel, an alkyd coating, a vinyl coating, and a two-component epoxy.

224. The vessel of claim 216, wherein the third layer of the second surface is selected from the group consisting of: a ready-mixed aluminum coating, an alkyd enamel, a vinyl coating, and a two-component aliphatic polyurethane coating.

225. The vessel of claim 208, further comprising means for maintaining a temperature of the desalinated water disposed in the tank above freezing.

226. A method comprising:

providing a vessel operable to generate energy; and

transferring the energy from the vessel to a land-based distribution system.

227. The method of claim 226, wherein the vessel comprises a dead-weight tonnage in a range between about 10,000 and 500,000.

228. The method of claim 226, wherein the vessel comprises:

a supply transformer;

a motor;

a frequency converter operable to control a speed and a torque of the motor; and

a motor control.

229. The method of claim 226, wherein the vessel comprises a fuel cell.

230. The method of claim 226, further comprising synchronizing the energy from the vessel to the land-based distribution system.

231. The method of claim 230, wherein the step of synchronizing the energy from the vessel to the land-based distribution system comprises:

stepping-up a voltage from the vessel to a voltage substantially equal to the land-based distribution system; and

providing a second converter operable to synchronize the energy from the vessel with the land-based distribution system.

232. The method of claim 226, wherein the vessel is operable to generate electricity in a range between about 10 megawatts and 100 megawatts.

233. The method of claim 226, further comprising cleaning an exhaust from the vessel.

234. The method of claim 233, further comprising providing a scrubber.

235. The method of claim 233, further comprising providing a particulate filter.

236. A method comprising:

providing a vessel operable to produce desalinated water and to generate electricity;

delivering the desalinated water produced by the vessel to a land-based water distribution network; and

transferring the electricity generated by the vessel to a land-based electrical distribution network.

237. The method of claim 236, wherein the vessel comprises a dead-weight tonnage in a range between about 10,000 and 500,000.

238. The method of claim 236, wherein the vessel is operable to produce desalinated water in a range between about 1 million gallons per day and 100 million gallons per day.

239. The method of claim 236, wherein the vessel comprises:

a supply transformer;

a motor;

a frequency converter operable to control a speed and a torque of the motor; and

a motor control.

240. The method of claim 236, wherein the vessel comprises a fuel cell.

241. The method of claim 236, further comprising:

stepping-up a voltage from the vessel to a voltage substantially equal to the land-based electrical distribution system; and

synchronizing the electricity from the vessel with the electricity of the land-based electrical distribution system.

242. The method of claim 236, wherein the vessel is operable to produce electricity in a range between 10 megawatts and 100 megawatts.

243. The method of claim 236, further comprising cleaning an exhaust from the vessel.

244. The method of claim 243, further comprising providing a scrubber.

245. The method of claim 243, further comprising providing a particulate filter.

246. A method comprising:

producing desalinated water;

mixing a concentrate with seawater; and

storing the desalinated water in a tank, the tank disposed in a hull of a vessel, the hull comprising a first surface and a second surface, the tank comprising a first surface and a second surface, the second surface of the tank separated from the first surface of the hull.

247. The method of claim 246, wherein the first surface of the hull comprises an interior surface of the vessel and the second surface of the hull comprises an exterior surface of the vessel.

248. The method of claim 246, wherein the second surface of the tank is separated from the interior surface of the hull by a distance, the distance being at least about two meters.

249. The method of claim 246, wherein the tank comprises at least one of the following: a plastic, a thermoplastic resin, a thermosetting resin, a polymerized ethylene resin, a polytetrafluoroethylene, a carbon steel, and a stainless steel.

250. The method of claim 249, wherein the stainless steel is selected from the group consisting of: grade 304 stainless steel and grade 316 stainless steel.

251. The method of claim 246, wherein the first surface of the tank is disposed proximate to the desalinated water.

252. The method of claim 250, further comprising coupling a cladding to the first surface of the tank, the cladding comprising the stainless steel.

253. The method of claim 246, further comprising coupling a sacrificial anode to the second surface of the tank.

254. The method of claim 246, wherein the first and second surfaces of the tank each comprise a layer, the layer comprising a first layer, a second layer, and a third layer.

255. The method of claim 246, further comprising maintaining a temperature of the desalinated water disposed in the tank above freezing.

256. The method of claim 255, further comprising disposing insulation between the second surface of the tank and the first surface of the hull.

257. The method of claim 255, further comprising heating a space between the second surface of the tank and the first surface of the hull.